



NEWS LETTER

MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

AVAILABLE DOUGLAS FIR SEED - by LOT NUMBERS

CERTIFIED MANINGSEED

<u>Region, Zone *</u> <u>and Elevation</u>	<u>COLLECTION AREAS</u>	<u>Nearest Weather **</u> <u>Station Number</u>
<u>Lot No.</u>		
(Region 1) <u>13-0.5</u>	Forks (Sappho)	7
(Region 2) <u>22-0.5</u>	Hoquiam	Between 19 and 16
51-0.5	San Juan	32
53-0.5	Camano Island	33
(Region 5) <u>55-1.0</u>	Sequim	5
55-2.0	Sequim	5
56-1.0	Quilcene	14
56-2.0	Quilcene (Louella)	14 +
(Region 6) <u>65-1.0</u>	Darrington	51
72-1.0	Enumclaw	Between 60 and 71
72-2.0	Enumclaw	Between 60 and 72
73-1.0	Graham	71
(Region 7) <u>74-0.5</u>	Elma	Between 18 and 84
75-0.5	Yelm	Between 37 and 81
76-1.0	Tenino	Between 85 and 37
77-0.5	Pe Ell	89
78-2.0	Ashford (National)	Between 74 and 76
79-1.0	Castle Rock	95
79-2.0	Castle Rock	95 +
82-1.0	Vernonia	113 +
83-2.0	Yacolt	100 +
(Region 8) <u>84-2.0</u>	Eslacadia	125
86-1.0	Sweet Home	Between 153 and 154
87-1.0	Lowell	159
88-1.0	Cottage Grove	157
89-2.0	Santiam River	Between 135 and 160
(Region 10) <u>102-2.0</u>	Wind River	105
(Canada) <u>B10-2.0</u>	Shuswap	Rainfall 19 inches

* The first numeral of the Lot Number is the region - see Bulletin No. 1 for full explanation. The second numeral is the exact cone collection zone -- see MANINGSEED Douglas Fir Site Maps for details. The number following the dash is the elevation range in thousands of feet, according to this table:

0.5 = 0 to 500 feet
 1.0 = 0 to 1000 feet
 2.0 = 1001 to 2000 feet
 3.0 = 2001 to 3000 feet

** See Booklet: "Better Douglas Fir Forests from Better Seed", pages 40-45.

† Adjustment in weather station data is necessary because of higher elevation.

СИСТЕМА ПОДДЕРЖКИ РЕШЕНИЯ

Моделирование

Система поддержки

решения

представляет собой

составленную из

многих компонентов

и связанных между

собой в определенном

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порядке

Система поддержки решения или же система поддержки принятия решений - это совокупность компонентов, связанных между собой определенным образом, для решения определенных задач.

Состав СПР включает в себя:

• базы данных (БД)

• языки описания языка

• языки описания языка

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NEWS LETTER

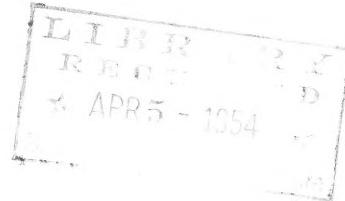


MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

BULLETIN NO. 2

DOUGLAS FIR SEED SOURCES



The parentage of tree seed greatly influences the quality and rate of growth of all planted forests. Because of this fact, MANNING SEED COMPANY has enlarged its collection area to supply seed from high quality trees in a variety of situations in order to better meet the requirements of our customers.

To insure the integrity of every seed source, our seed has been collected and carefully processed under the direct supervision of technically trained foresters. Each lot of seed is positively identified with the area from which it was collected so that we can duplicate future collections at your request.

We suggest that you follow two principles of sound management in purchasing seed for reforesting your land:

1. Play safe by using seed from a climatic environment similar to the area to be reforested.
2. Experiment with seed from other environments in an attempt to introduce better trees of faster growth.

We collect seed from all locations in the Pacific Northwest some of which are listed on the attached sheet. Each locality is coded by a system that is based on seed zones as designated by Manning Seed Company with weather data as compiled by Leo A. Isaac of the Pacific Northwest Forest and Range Experiment Station and published in his bulletin "Better Douglas-fir Forests from Better Seed".

MANNING SEED COMPANY

THE CROWN OF THAILAND

The King of Thailand is the head of state and the chief of the armed forces. He is also the head of the Buddhist Church. The King is elected by the National Assembly for a term of five years. The King has the power to appoint and dismiss ministers, to issue decrees, and to declare war.

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NEWS LETTER



MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

Bulletin No. 13

BONDED MANINGSEED

We are pleased to announce that we have made a special collection of Douglas Fir cones for experimental plantings. These cones, from which our Bonded Douglas (Green) Tree Seed is supplied, come from Regions 1, 2, 3, 5, 6, 7 and 8 (see Maning-seed Collection Area Map) and will be available for delivery this fall.

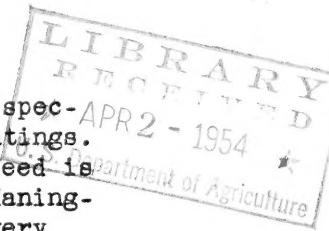
The Douglas fir cones for Bonded Maningseed have been hand-picked under the supervision of graduate foresters at many locations and elevations to meet the requirements of our many customers throughout the world.

If you will please tell us by return mail which regions and elevations are of interest to you, we will gladly advise regarding availability and price. Please do not order more than 4.4 lbs. (2 kilos) of Douglas fir seed from any one region as our supply of this special seed is limited.

Collections can also be made in Canada and Alaska by qualified foresters when arrangements are made well in advance of the September and October cone harvest season.

Orders for Bonded Douglas (green) will be filled in the order of receipt, as long as our supply lasts.

MANNING SEED COMPANY



21 • 1968

CONTINUATION

There is often a very low level of seedling mortality in the first year of establishment, but it is difficult to distinguish between seedlings lost at seed stage (because they do not reach maturity, or because seed is damaged) and those lost later (because they do not survive). This is particularly true for species with long life cycles.

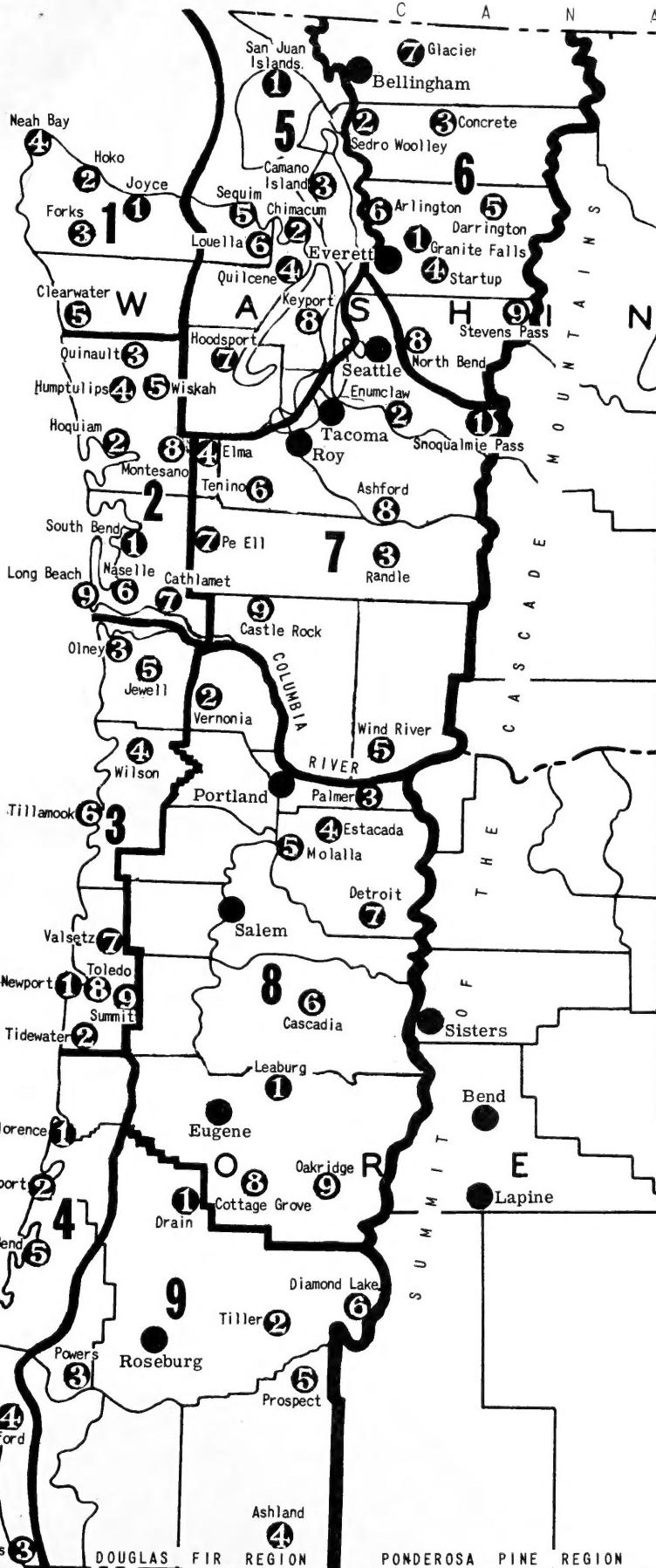
After three years, however, there is a marked increase in seedling mortality, particularly among the short-lived species, and this continues until about six years. This is probably due to increased competition from other plants, particularly grasses, which may be more abundant than the seedlings.

After six years, there is a marked decrease in seedling mortality, particularly among the short-lived species, and this continues until about ten years. This is probably due to increased competition from other plants, particularly grasses, which may be more abundant than the seedlings.

At ten years, there is a marked increase in seedling mortality, particularly among the short-lived species, and this continues until about fifteen years. This is probably due to increased competition from other plants, particularly grasses, which may be more abundant than the seedlings.

At fifteen years, there is a marked increase in seedling mortality, particularly among the short-lived species, and this continues until about twenty years. This is probably due to increased competition from other plants, particularly grasses, which may be more abundant than the seedlings.

YARDLEY, U.K. 1968



MANINGSEED MAP

WASHINGTON & OREGON

Seed Collection Regions

The forests of Washington and Oregon are divided into two major climatic regions by the Cascade Mountain Range. The Douglas Fir Region lies to the west of the mountains and the Ponderosa Pine Region lies to the east of the mountains.

1. There are three specific climatic belts in the Douglas Fir (green) forests of Washington and Oregon:
 - (a) The so-called "fog belt" between the Coast Range and the sea on the Oregon and Washington coast, Regions 1, 2, 3, and 4;
 - (b) The interior valleys between the Coast Range and the middle elevation of the Cascades that extend from Puget Sound (Washington) south to the Siskiyou Mountains (Oregon), Regions 7, 8, and 9, and
 - (c) A smaller area in the rain shadow of the Olympic Mountains (Washington) that includes a strip along the northeast end of the Olympic Peninsula, the eastern shore of Vancouver Island (British Columbia) and the Puget Sound Islands that lie to the east, Region 5. Region 6 to the East is cooler and not as dry as Region 5.

2. The Ponderosa Pine Region is a high plateau area with light rainfall and a wide annual variation of temperature. Ponderosa Pine is the major species, often occurring in mixture with White Fir, Larch, Lodgepole Pine, Sugar Pine and Douglas Fir (caesia). (This region is not divided into collection zones on this map).

In order to permanently identify the regions from which MANINGSEED is collected, and thus enable customers to easily reorder the best seed for their needs, we use lot numbers to indicate region, zone, and elevation--for example:

Lot No. 13-0.5 (Forks)

The first number, (1), indicates the region, and the second number,(0.5), the zone. The two numbers following, (0.5), indicate the elevation in thousands of feet--0.5=zero to 500 feet.

See MANINGSEED NEWSLETTERS For Details



BAPTIST CHURCH

METHODIST CHURCH

LUTHERAN CHURCH

PROTESTANT CHURCH

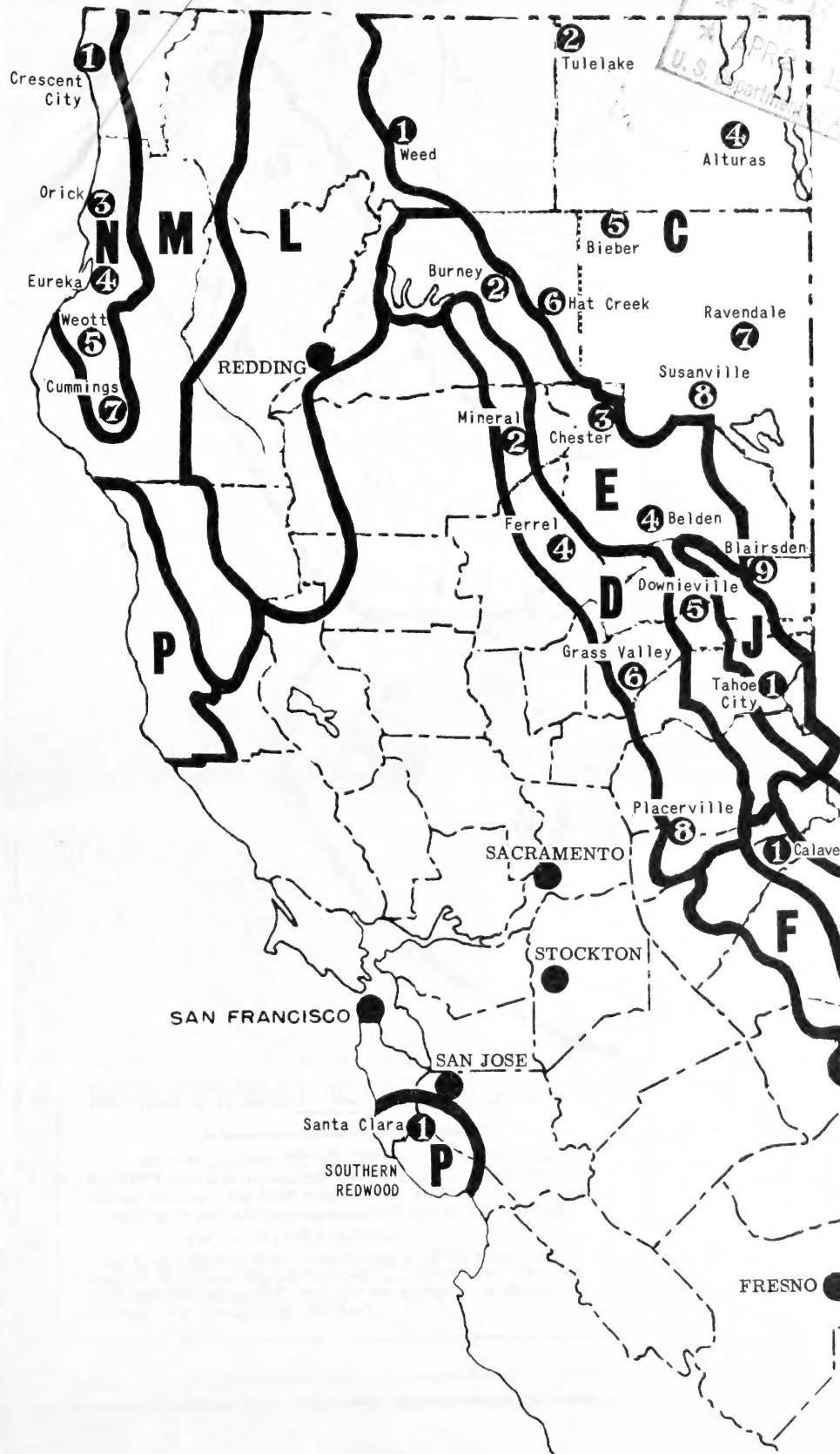
Methodist

Baptist

Lutheran

Protestant

OREGON



MANINGSEED MAP

CALIFORNIA Seed Collection Regions

In order to permanently identify the regions from which MANINGSEED is collected, and thus enable customers to easily reorder the best tree seed for their needs, we use lot numbers to indicate region, zone, and elevation -- for example:

Lot No. N3-0.5 (Orick)

The first letter (N) indicates the region, and the first number (3) indicates the zone. The two numbers following (0.5) indicate the elevation in thousands of feet -- 0.5 = zero to 500 feet.

The predominate species growing on the east and west slopes of the Sierra Nevada Mountains in Northern California are Ponderosa pine, Jeffrey pine and Sugar pine. Mixed with these pine species are Douglas fir, Red fir and White fir.

On the coast there are impressive stands of Redwood -- *Sequoia sempervirens* -- the tallest living tree in America. Mixed with the Redwood and occurring further east are large stands of Douglas fir.

In the south, Region F1, the King of the Conifers, the majestic *Sequoia gigantea*, grows in about 70 groves, totaling over 1000 big trees. These trees are native to the western slopes of the Sierra Nevada at elevations from 4500 to 8500 feet.

See MANINGSEED NEWSLETTERS
for details of climate and rainfall.

Acknowledgement:

Data from seed collection map compiled and released (1946) by Mr. H. A. Powells, Silviculturist, California Forest and Range Experiment Station.

MANINGSEED

Map of BRITISH COLUMBIA Seed Collection Regions

Trees are more sensitive to climate than is generally anticipated, and when moved to a unsuitable location, they are affected by frost, heat, or drought, and are often overly susceptible to disease.

The most important factors to observe in locating correct seed sources for coniferous tree seeds are average annual temperature, minimum temperature, rainfall, and general moisture conditions of the atmosphere. There are abrupt changes in average annual temperature and in precipitation from south to north and from the coast inland. Therefore, four generalized regions in British Columbia were set up based on weather records of the Department of Agriculture of British Columbia and data furnished by the British Columbia Forest Service.

See
MANINGSEED NEWS LETTERS
For Details

BRITISH COLUMBIA

Scale
0 50 100 150 200 250 300 miles

In order to permanently identify the regions from which FOREST-Seed is collected, and thus enable customers to easily reorder the best seed for their needs, we use lot numbers to indicate region, zone, and elevation--example:

Lot No. B 13-0.5 (Alberni)

The first letter and the first number, (B 1), indicates the region, and the second number (3), the zone. The two numbers following (0.5) indicate the elevation in thousands of feet -- 0.5 = zero to 500 feet.



AVIS

A tous les Acheteurs de graines forestières

Comme principaux distributeurs de graines forestières, nous sommes heureux de faire connaître un nouveau programme pour la récolte des graines de conifères rationnellement établi sur des bases scientifiques.

La MANNING SEED COMPANY préconise ce programme afin d'assurer d'une façon plus certaine le succès des entreprises actuelles et futures de reboisement. Le succès d'un projet quelconque de reboisement artificiel entrepris sur une vaste échelle est partiellement déterminé par la qualité des graines forestières employées. Dans les années passées, il a été établi que la grande mortalité dans beaucoup de plantations était due, le plus souvent partiellement, à la défaillance des planteurs, incapables de désigner d'une façon spécifique les graines d'origine requises.

Il est bien connu que la qualité des graines forestières est déterminée par plusieurs facteurs qui ont pour base les considérations suivantes : origine, authenticité, pureté, viabilité. Il entre dans nos intentions de mettre à votre portée ces facteurs de la qualité des graines. Forestiers qui voulez de meilleures forêts, écrivez à notre Directeur Forestier au sujet des graines dont vous avez besoin. Tous détails sur notre programme pour la Récolte des

graines pour 1950 vous seront fournis sur demande.

Notre programme pour la Récolte de 1950 est établi pour faire face aux besoins de trois types d'acheteurs en gros de graines forestières.

1° Acheteurs par contrat
pour qui nous récoltons la graine chaque année sur leur propre propriété, ou sur des aires spécifiquement déterminées en vue de l'application d'un plan de reboisement préétabli.

2° Acheteurs saisonniers
pour qui nous récoltons la graine de sources spécifiquement sélectionnées dans des lots pré-déterminés. Les prix sont établis à l'avance, selon les conditions de la récolte. Les ordres doivent nous être remis avant la saison de la récolte des cônes.

3° Graines d'origine spécifiquement déterminée
à l'usage des pépiniéristes ou marchands de graines, utilisables pendant le cours d'une année.

★ Si vous achetez des graines en gros vous serez intéressés par tout ce que notre Programme Scientifique pour la Récolte de 1950 peut vous offrir. Écrivez, télégraphiez ou téléphonez aujourd'hui,

MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON
U. S. A.

John G. Cameron
Chief Forester

F. E. Manning
General Manager

MEILLEURES GRAINES FORESTIÈRES - POUR DE MEILLEURES FORÊTS



Mitteilung

für alle Käufer forstlicher Sämereien

Als führende Verteiler forstlicher Sämereien können wir ein neues Programm der Ernte von Koni-feren-Samen auf wissenschaftlicher Grundlage mitteilen.

Die „Manning Seed Company“ veranlaßt dieses Programm, um den Erfolg gegenwärtiger wie zukünftiger Wiederaufforstungsprojekte vollständiger zu sichern als bisher. Im großen und ganzen ist der Erfolg eines jeden Projekts künstlicher Wiederauf-forstung durch die Güte des benutzten Samens be-stimmt. Die vergangenen Jahre lehrten, daß die hohen Pflanzensterblichkeiten mancher Kulturen nicht selten zu einem Teil auf die Auswahl einer für den Anbau ungeeigneten Saatgutherkunft zurückzu-führen war.

Zu den grundlegenden, die Samengüte beeinflus-senden Faktoren zählen bekanntermaßen: Herkunft, Art-Reinheit, Saatgutreinheit, Keimkraft. Wir beab-sichtigen, diese Merkmale besonderer Samengüte Ihnen zum Gelingen Ihrer Pflanzungen zu garantie-ren. Forstleute, die bessere Wälder begründen wol-len, werden gebeten, unserem Forstlichen Leiter ihren Samenbedarf mitzuteilen. Einzelheiten unseres

Samenernteprogramms 1950 stehen auf Anfrage zur Verfügung.

Der Bedarf von drei Käufergruppen soll durch unser Ernteprogramm 1950 befriedigt werden.

- 1. Vertragskunden:** für sie sammeln wir jähr-lich in deren Waldungen, oder zur Durchführung besonderer Wiederaufforstungspläne in bestim-mten Waldgebieten.
- 2. Saisonkunden:** für sie sammeln wir im vor-aus festgelegte Saatgutmengen bestimmter Her-kunft zu den nach den Erntebedingungen zuvor festgelegten Preisen. Aufträge müssen vor der Zapfenreife mit uns abgeschlossen werden.
- 3. Besonderes Original-Saatgut** für Pflanzschulen und Samenhändler. Gültig nach Vereinbarung von Jahr zu Jahr.

Wenn Sie Saatgut in Großhandelsmengen kaufen wollen, dann werden Sie sich für die Möglichkeiten interessieren, die unser wissenschaftliches Saatgut-beschaffungsprogramm 1950 Ihnen bietet. Schreiben Sie uns Ihre Wünsche noch heute!

MANNING SEED COMPANY

840 Dexter Horton Building

Seattle 4, Washington

U. S. A.

John G. Cameron
Chief Forester

F. E. Manning
General Manager

Besserer Forst-Samen – bessere Wälder!



ANNOUNCEMENT

For All Forestry Seed Purchasers

AS Leading distributors of forest tree seed, we are pleased to announce a new and more scientific program for the collection of coniferous tree seed.

The Manning Seed Company is instigating this program to more fully insure the success of current and future reforestation programs. The success of any large-scale artificial reforestation project is partially determined by the quality of the tree seed used. In past years it has been found that the high mortality in many plantations has been due partially, but not infrequently, to the failure of planters to designate specifically the seed origin required.

It is well known that the quality of tree seed is determined by many factors which include the following basic considerations: origin, genuineness, purity and viability. It is our intention to make these factors of seed quality available to you. Foresters who want better forests should write our Chief Forester regarding their seed requirements. Details of our Seed

Collection Program will be supplied upon request. Our Collection Program is arranged to meet the needs of three types of wholesale buyers of forest tree seed:

1. **Contract Buyers**—for whom we collect seed each year from specific areas for a planned reforestation program.
2. **Seasonal Buyers**—for whom we collect seed from specific sources in pre-determined amounts. Prices are estimated in advance, subject to crop conditions. Orders must be placed with us prior to cone harvest in August.
3. **Specific Origin Seed**—for general use by nurserymen or seed dealers. Available on a year around basis.

If you purchase seed in wholesale quantities, you will be interested in what our Scientific Collection Program can do for you. Write or call today.

MANNING SEED COMPANY

840 Dexter Horton Building

Seattle 4, Washington

U. S. A.

F. E. Manning
President

John G. Cameron
Chief Forester

BETTER TREE SEED—FOR BETTER FORESTS
— SINCE 1871 —





NEWS LETTER



MANNING SEED COMPANY

DEXTER HORTON BUILDING
SEATTLE 4, WASHINGTON, U.S.A.

BULLETIN No. 14

BEAUTIFUL EVERGREEN CONES

OPEN ** AIR DRIED ** FOR DECORATIVE PURPOSES.

Packed in lettuce crates containing approximately 2-3/4 bushels each.

<u>Species</u>	<u>Size</u>	<u>Price per crate*</u>	
		<u>Less than 10 Crates</u>	<u>More than 10 Crates</u>
SUGAR PINE	20-35 cones per crate 8"-16" long--3"-5" diam.	\$2.50	\$2.00
JEFFREY PINE	30-45 cones per crate 6"-8" long, 5" diam.	2.50	2.00
PONDEROSA PINE	2 $\frac{1}{2}$ "-5" long	3.00	2.40
LODGEPOLE PINE	2"-3" long	3.00	2.40
WESTERN HEMLOCK	$\frac{1}{2}$ "-1" long	3.00	2.40
SITKA SPRUCE	2"-3 $\frac{1}{2}$ " long	2.00	1.60
DOUGLAS FIR	2"-3 $\frac{1}{2}$ " long	2.00	1.60

* Prices f.o.b. Tacoma, Washington

* * *

When ordering please specify number of crates of each species desired.

Shipment will be made immediately upon receipt of your check.

Our supply of these decorative cones is limited. Place your order early to assure a full assortment.

MANNING SEED COMPANY

LAMMEL-MALAKOMBE INSTITUTION

• [GROW YOUR BUSINESS WITH OUR NEW](#) [GROW YOUR BUSINESS WITH OUR NEW](#)

Programme to improve office ergonomics, the intervention will also include a programme to improve office ergonomics.

richtungsfest, sonstig w. o. f. esort. *

THE BOSTONIAN

Aplospilus (sensu lato) *Leptothrix villosa* sensu stricto nov. sp.
• berlese

Spineo, 1960. In relation to the distribution of the species of *Littorina* in the British Isles, the following observations were made:

THREE CAR CHINWAD